Are You Satisfied Yet?
Shared Leadership, Trust and Individual Satisfaction in Virtual Teams

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Abstract

Virtual teams provide organizations with numerous advantages by allowing them to assemble individuals irrespective of their physical location. Unfortunately, dispersion and reliance on virtual communications are two characteristics of virtual teams that can reduce team member's satisfaction. Promoting satisfaction is important because it is associated with increases in individual behaviors that promote team performance. To address this issue, this paper conducts a multi-level analysis that investigates the influence of shared leadership and individual trust on individual satisfaction in virtual teams. Results indicate that both shared leadership and individual trust increase individual satisfaction. In addition, the significance of a cross-level moderation effect between shared leadership and individual trust indicates that the two act as substitutes for one another. In essence, either shared leadership or trust can be used to facilitate individual satisfaction in virtual teams.

Keywords: virtual teams, leadership, trust, information systems, computer supported cooperative work

Introduction

Virtual teams provide organizations with numerous advantages by allowing them to assemble individuals irrespective of their physical location (Robert, Dennis, & Ahuja, 2008). Despite this, virtual teams also present new challenges (e.g., Alnuaimi, Maruping & Robert, 2009; Alnuaimi, Maruping & Robert, 2010; Dennis, Robert, Curtis, Kowalczyk & Hasty, 2012; Jarvenpaa & Leidner, 1999). Promoting and maintaining a positive collaborative experience in these virtual teams are two such challenges (Morris, Marshall & Rainer, 2002). Dispersion and the reliance of virtual communications are associated with negative team interactions which reduces team members' satisfaction (Chidambaram, 1996; Kayworth & Leidner, 2000). Finding ways to promote satisfaction is important because it has been associated with increases in individual behaviors that promote team performance (Briggs, Vreede & Reinig, 2003; Morris, Marshall & Rainer, 2002).

Trust, the willingness to be vulnerable to the actions of others (Mayer, Davis & Schoorman, 1995), and leadership, the ability to influence others, are two mechanisms used to promote positive team interactions and facilitate individual satisfaction (Carson, Tesluk & Marrone, 2007). There is rich and diverse literature on the benefits of trust in virtual teams but not leadership (Kayworth & Leidner 2001-2002; Robert, Dennis & Hung, 2009). Recent literature has indicated that virtual teams tend to engage in a type of shared leadership (Carte, Chidambaram & Becker, 2006). Shared leadership is the distribution of leadership among team members (Carson et al., 2007). Although virtual teams frequently use shared leadership we know very little about its implications in virtual teams (Balthazard, Waldman, Howell & Atwater, 2004; Carte et al., 2006). The few studies examining shared leadership in virtual teams have typically done it at the team level (Robert, 2012). However, shared leadership represents the contextual environment in which team members are embedded. Therefore, it is possible that shared leadership could both directly impact individual satisfaction and alter the impact of individual variables, such as trust, on individual satisfaction.

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This paper takes a multi-level approach to understanding the impacts of shared leadership at the team level, and trust and satisfaction at the individual level. In doing so, this paper hopes to contribute to the literature examining shared leadership in virtual teams (Robert, 2012). The research question this study attempts to address is: "Does shared leadership alter the influence of individual trust on individual satisfaction?" This study has three goals: 1) to examine the impact of shared leadership on individual satisfaction in virtual teams. Recent work has examined the impact of shared leadership on individual satisfaction at the team level but little work has been done at the individual level (Robert, 2012). 2) To investigate the impact of individual trust on individual satisfaction. 3) To examine the interplay between shared leadership and individual trust on individual satisfaction in virtual teams. To address these gaps in the virtual team literature this paper proposes a multi-level research model that explains the relationship between shared leadership, individual trust, and individual satisfaction in virtual teams.

Related Literature and Hypotheses

Gibb (1954) originally suggested two forms of team leadership--distributed and focused. The nature of shared leadership bears the roles, responsibilities, and functions of leadership that are shared/distributed with two or more individuals within a team, rather than having the functions of leadership focused on a single individual (Carson et al. 2007; Lee, Lee & Seo, 2011). There are several terms that enable us to capture the concept of shared leadership across research: emergent leadership, collective leadership, and distributed leadership. Kocolowski (2010) comprehended these terms and defined the shared leadership, from his extensive literature review, as "a relational collaborative leadership process or phenomenon involving teams or groups that mutually influence one another and collectively share duties and responsibilities otherwise relegated to a single, central leader" (p. 24). Along with its broad conceptualization, research has identified different factors and dimensions of shared leadership. As a conceptual extension of shared leadership, emergent leadership was characterized by strategic goals, extensive networks, collaborative relationships, effective information processing, and focused action, by McIntyre (1999, p. 40). Another view is that shared leadership consisted of three dimensions: shared purpose, social support, and voice (Carson et al. 2007).

Shared leadership can foster an individual's satisfaction. When leadership is shared, influence and power are distributed throughout the team. This distribution of power means everyone has a say in what actions are taken by the team. Shared leadership can also reduce conflict and promote intragroup trust and cohesion (Bergman, Rentsch, Small, Davenport & Bergman, 2012). A series of studies in organizations have found that employees are more satisfied with their job when leadership is shared (Loke, 2001). As such, we postulated the following hypothesis:

H1: Shared leadership will positively increase individual satisfaction.

Along with shared leadership, trust is frequently associated with satisfaction. When individuals believe their teammates will act in their best interest they are less concerned about potential opportunistic behaviors (Robert et al., 2009). Team will feel more comfort and not have to expend effort monitoring the behavior of their teammates. This reduces the effort needed to accomplish work and facilitates positive team interactions. It has been empirically supported that trust of an individual team member is related to satisfaction. Jarvenpaa and Leidner (1999) has conducted a case study showing that satisfaction was higher when swift trust was formed in initial stage of collaboration and was maintained to the final stage. Hence, it is likely that as individual trust in the team increases so does individual satisfaction. Therefore, we can hypothesize:

H2: Individual trust will positively predict satisfaction of individual level.

Multilevel theory implies that "higher-level units may shape or moderate relationships and processes in lower-level units" (Kozlowski & Klein, 2000, p. 8). We propose a cross-level moderation between shared leadership at the team level and trust at the individual level. The present study proposes that there is a substitutional relationship between shared leadership and trust on satisfaction. The ability to have a say in the actions taken by the team will be a strong and important predictor of individual satisfaction when individuals do not trust their teammates to make decisions on their behalf. However,

when individuals trust their teammates to make decisions on their behalf, having a say in what actions are taken by the team will be less important to individual satisfaction.

H3: There will be a moderating (substitutional) effect of shared leadership and trust on satisfaction.

Method

Participants

Participants were enrolled at a large public university. Thirty percent of the students were females and ages ranged from 28 to 52 with a mean of 39. A total of 93 students, all US citizens, in 27 teams participated in the study. The size of the teams ranged from 3 to 5 with a mean of 3.7. The average team tenure was 47 days. Participants received extra credit for completing the survey.

Data Collection

Data was collected via an online survey administered to working professionals enrolled in a distance education program. The course instructors were not aware of the research question and none of the classes were taught by the author(s). The survey employed established multi-item 7 point Likert scales.

Control Variables

We used several control variables to reduce the possibility of alternative explanations. These included team size and team tenure, gender and racial diversity of the team.

Independent Variables

Team shared leadership was based on the density of shared leadership (Carson et al., 2007). Team members were asked to rate to what degree each team member displayed shared leadership. Density was calculated by dividing the average perceived leadership by 7, the total possible amount of leadership. The items measuring individual trust were taken from Simons and Peterson (2000). The items were “I know I can count on the other team members” and “I trust all of the other team members”.

Dependent Variables

Team satisfaction was measured using a scale that was a modified version of Briggs et al. (2003). Two of the items were “I was satisfied with how we completed the team project” and “Looking back I was pleased with how we completed the team project.”

Results

The virtual teams in this study were fully dispersed members taking classes in their home. These teams relied heavily on the use of electronic communication. Teams were asked about their technology use. Scales range from 0 to 6, with 0 indicating no use and 6 indicating extremely frequent use of electronic technology. The mean use and standard deviation of use per technology was: email 4.7 (.90), synchronous chat 1.9 (1.1), phone 2.04 (2.08) and video .2 (.47).

Psychometric properties were analyzed for each construct. The Cronbach’s alpha for individual trust and satisfaction was .95 and .90 respectively (Fornell & Larcker, 1981). Next, the intra-class correlation coefficient (ICC) was calculated for individual satisfaction. The ICC is used to justify using a multilevel analysis by providing evidence that team membership should be accounted for in the analysis (Bliese, 2000). ICC values of above .10 provide evidence that there is a significant team effect (Bliese, 2000). The ICC for individual satisfaction was .51, indicating a significant team effect.

A factor loading was done to assess convergent and discriminant validity. All items loaded at the .7 or above level on each of their constructs while no cross loadings were above .43. Both are clear indications of convergent and discriminant validity (Fornell & Larcker, 1981). The multi-level analysis was conducted with SPSS 20.0 mixed model package. The analysis, not shown because of space limitations, consisted of three models. Model 1 was the control model with size, tenure, gender and racial diversity predicted 3.75 % of the variance in individual satisfaction. Model 2 was the main effect model predicted 71 % of the variance in individual satisfaction. Model 3 included the moderation effect predicted 75% of the variance in individual satisfaction. The additional variance explain with the inclusion of the moderation effect of shared leadership and individual trust was significant (F >.001). The moderation effect was plotted (see Figure 1).

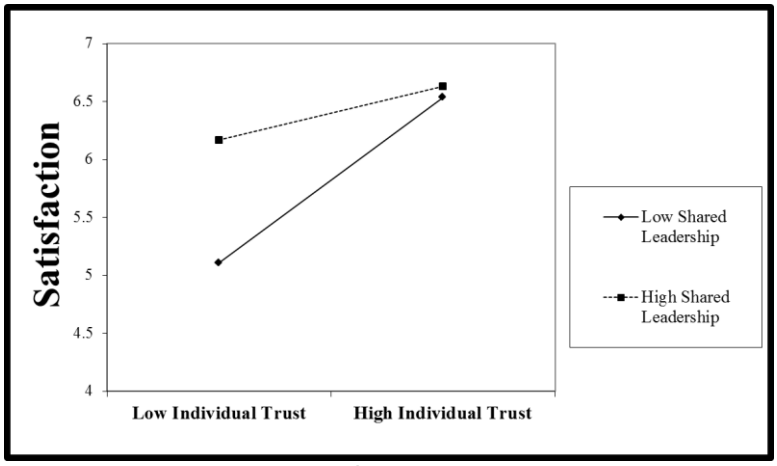

Figure 1.

H1, shared leadership would increase individual satisfaction, was significant (β= 3.4, p<.01). H2, individual trust would increase individual satisfaction, was also significant (β= .36, p<.001). H3, the cross-level moderation effect of shared leadership and individual trust, was also significant (β= -1.7, p<.05). H1 and H2 were tested in model 2 while H3 was tested in model 3 which also included the main effects.

Discussion

This study provides several contributions to literature. First, this study contributes to the literature on satisfaction in virtual teams. Team interactions in virtual teams are often characterized as cold and impersonal (Chidambaram, 1996). As such, much research has been directed at promoting positive team interactions (Kayworth & Leidner, 2000). This study adds to that literature by highlighting that shared leadership also increases satisfaction at the individual level and not just the team level.

Second, this study contributes to the literature on leadership in virtual teams by examining the effects of shared leadership. One might have thought that shared leadership and trust might complement each other. Shared leadership would have stronger effects when coupled with high levels of trust in the team. In other words, allowing others to take the lead and act on your behalf is only satisfying when you trust others to act on your best interest. However, this was not the case. The results of this study suggest that the positive effects of shared leadership on individual satisfaction are due, in part, to everyone being able to have a say in what actions are taken by the team. As a result, when individuals trust their teammates to act on their behalf there is less of a need to have a say in everything and shared leadership has little influence on individual satisfaction. This suggests that the effects of both share leadership and trust reach a point of diminishing returns where any more has no additional effect.

Finally, this study contributes to the trust literature by examining the context-dependent effects of individual trust on individual satisfaction. Based on previous literature we would expect trust to always be an important predictor of satisfaction. However, allowing everyone to have a say in the actions taken by their team reduces the importance on trust on individual satisfaction. As a result, this study sheds light on

when and why trust increases individual satisfaction in virtual teams. In doing, so this study provides greater understanding of what mechanisms trust uses to influence satisfaction.

Limitations and Future research

This study is a cross-sectional study and like all cross-sectional research it is difficult to draw causal inferences. Future research should also investigate if shared leadership moderates the importance of trust for other variables. For example, trust has been known to facilitate knowledge sharing in teams. It would be interesting to see if shared leadership moderated the importance of trust on individual sharing of information. In essence, in teams with shared leadership, trust may not be that important to information sharing. Future research may also examine whether trust at the team level influences shared leadership. Prior research has already established that shared leadership in virtual teams influences trust (Lee et al., 2011). It is possible that trust at the team level could drive shared leadership. Future studies should test whether team trust increases the use of shared leadership in virtual teams.

Implications for Research

Shared leadership and trust can be viewed as coordination mechanisms. Teams can coordinate work by distributing leadership roles or by allowing an individual to take the lead. The results of this study suggest that both are equally effective at facilitating satisfaction. However, there are tradeoffs involved in both approaches. As the number of individuals involved in the decision making process increases so does the time and effort required to make decisions. But there are also benefits associated with having multiple individuals involved in the team decision making, such as attaining more views on a particular problem. Researchers may now want to study when and why which approach is more effective at facilitating performance.

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